
Problem Solving with Microfossils: A Brief Review of the Role of Thin-Section Studies in Micropaleontology

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ABSTRACT

Foraminifera (single-celled protists) have a long geological record. They are both numerous and taxonomically diverse in assemblages throughout the Mesozoic and Cenozoic and have been used extensively in problem-solving. Both planktic and benthic foraminifera are used for biostratigraphy throughout the world, based on both processed residues and—where appropriate—thin-sections. In many cases, however, thin-section analysis appears to be undertaken reluctantly and relatively few micropaleontologists make use of standard (30 µm thick) thin-sections in their research and publications. This review will provide examples of the application of thin-section studies to problems relating to the Cretaceous-Paleogene (K–Pg) boundary, Cenomanian-Turonian boundary event (CTBE) and studies of Tethyan and Middle Eastern successions of the Mesozoic and Cenozoic. In all these examples, thin-sections provide key information on both biostratigraphy and paleoecology (including microfacies analysis).